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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,251	04/19/2004	Noboru Fujiwara	09141.0005	9412

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EXAMINER	
BOES, TERENCE	
ART UNIT	**PAPER NUMBER**
3682	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/826,251	FUJIWARA ET AL.
	Examiner	**Art Unit**
	Terence Boes	3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/29/2006*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. The request filed on 01/18/2007 for a Continued Examination (RCE) is accepted and a continued prosecution application has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaharu (Japanese publication # 2003-312457) in view of Poertzgen (EP 0768224).

Masaharu discloses:

Re clm 1 and 6

- A brake operating member (2)
- A variable output mechanism (9,12,15) disposed between the brake operating member (2) and an output member (11b) in which a multiplying ratio of an output force is changed mechanically and non-linearly in relation to an operational input force from the brake operating member in accordance with an operating stroke of the brake operating member.
- A brake controlling unit (11a) operated in accordance with the output force applied to output member (11b)

- a reaction force unit including a single spring (16) wherein the spring outputs a linear reaction force

Masaharu discloses all of the claimed subject matter as described above. Masaharu does not disclose a load sensor between the variable output mechanism and the output member

Poertzgen teaches a load sensor (42) between the variable output mechanism and the output member for the purpose of providing an actuation means for an electronically controlled brake system with high reliability (C1/L50-60).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Masaharu and provide a load sensor between the variable output mechanism and the output member, as taught by Poertzgen, for the purpose of providing an actuation means for an electronically controlled brake system with high reliability.

Re clm 2

Masaharu discloses:

- An intermediate connecting member (15) pivotable about a second axis (15) perpendicular to operational plane of brake operating member (2)
- Supporting member (1) fixed on a vehicle body
- First lever integral (12a) with intermediate connecting member (15), connected with brake operating member (2) and pivotable about the second axis (15) together with the intermediate connecting member (15)

- Second lever (12b) integral with intermediate connecting member (15) such that second lever (12b) is apart from first lever (12a) in the axial direction of second axis (15) and is connected with output member (11b)

Re claim 3,

Masaharu fails to disclose:

- A brake controlling unit capable of controlling the brake force electrically
- An electric control unit for controlling the brake force of the brake controlling unit electrically based on the output force value of the load sensor.

Poertzgen teaches a brake controlling (48) unit capable of controlling the brake force electrically to provide an actuation means for an electronically controlled brake system with high reliability (C1/L54-56).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of the brake controlling unit as taught by Poertzgen on the apparatus disclosed by Masaharu to provide an actuation means for an electronically controlled brake system with high reliability.

Poertzgen teaches an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output force value of the load sensor (C1/L 17-24) to process brake sensor signals (C2/L3-4).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of the electric control unit as taught by Poertzgen to process brake sensor signals.

Re clm 4

Masaharu fails to disclose:

- A stroke sensor for detecting the operating stroke of the brake operating member, wherein the electric control unit controls the brake force of the brake controlling unt based on detected values of both the load sensor and the stroke sensor.

Poertzgen teaches a stroke sensor (36) for detecting the operating stroke of the brake operating member (28), wherein the electric control unit (see C1/L19,20) controls the brake force of the brake controlling unit (48) based on detected values of both the load sensor (42) and the stroke sensor (36) to recognize any malfunction of the actuation means and especially of the spring means (40) by verifying the consistency of the two sensed dimensions (C2/L7-13).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed a stroke sensor for detecting the operating stroke of the brake operating member, wherein the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor, as taught by Poertzgen, to recognize any malfunction of the actuation means and especially of the spring means by verifying the consistency of the two sensed dimensions.

Re clms 5

Masaharu further discloses (as best understood):

- The brake operating member (2) disposed on the supporting member (1) fixed on the vehicle body (4,5) such that the brake operating member (2) is pivotable about the specified first axis (3 or 7).

Masaharu fails to disclose:

- Stroke sensor disposed on the supporting member coaxial with the first axis for detecting the amount of pivotal movement of the brake operating member.

Poertzgen teaches a stroke sensor (36) disposed on a supporting member (38) coaxial with the first axis (34) for detecting the amount of pivotal movement of the brake operating member (28) to provide a cost effective and very reliable rotational sensor (C2/L22-23).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the us of a stroke sensor disposed on a supporting member coaxial with the first axis for detecting the amount of pivotal movement of the brake operating member, as taught by Poertzen, to provide a cost effective and very reliable rotational sensor.

3. Claims 1, 6-9,11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaharu (Japanese publication # 2003-312457) in view of Shaw (US 6,367,886).

Masaharu discloses:

Re clms 1 and 6

- A brake operating member (2)
- A variable output mechanism (9,12,15) disposed between the brake operating member (2) and an output member (11b) in which a multiplying ratio of an output force is changed mechanically and non-linearly in relation to an operational input force from the brake operating member in accordance with an operating stroke of the brake operating member.
- A brake controlling unit (11a) operated in accordance with the output force applied to output member (11b)
- a reaction force unit including a single spring (16) wherein the spring outputs a linear reaction force

Masaharu discloses all of the claimed subject matter as described above. Masaharu does not disclose a load sensor between the variable output mechanism and the output member

Shaw teaches a load sensor (15) between the variable output mechanism and the output member for the purpose of measuring the brake pedal force (C3/L55-65).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Masaharu and provide a load sensor between the variable output mechanism and the output member, as taught by Shaw, for the purpose of measuring the brake pedal force.

Re clm 7

Masaharu, in view of Shaw, discloses all of the claimed subject matter as described above. Masaharu does not disclose a damper for applying a depressing reaction force to the brake operating member.

Shaw teaches a damper (40,60) for applying a depressing reaction force to the brake operating member for the purpose of providing a dynamic dampening force (C3/L 45-50)

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Masaharu and provide a damper for applying a depressing reaction force to the brake operating member, as taught by Shaw, for the purpose of providing a dynamic dampening force.

Re clm 8

Masaharu, in view of Shaw, discloses all of the claimed subject matter as described above. Masaharu does not disclose a brake controlling unit capable of controlling the brake force electrically, or an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output value of a load sensor.

Shaw teaches a brake controlling unit (see BBW, C1/L20-25) capable of controlling the brake force electrically, and an electric control unit ("automatic electric means", C1/L20-25) for controlling the brake force of the brake controlling unit electrically based on the output value of a load sensor for the purpose of remotely activating a brake (C1/L24).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Masaharu and provide a brake controlling unit capable of controlling the brake force electrically, or an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output value of a load sensor, as taught by Shaw, for the purpose of remotely activating a brake.

Re clm 9

Masaharu, in view of Shaw, discloses all of the claimed subject matter as described above. Masaharu does not disclose a stroke sensor or the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor.

Shaw teaches a stroke sensor (35) and the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor (15) and the stroke sensor for the purpose of allowing for variations in system packaging and pedal response curves (C5/L5-10).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Masaharu and provide a stroke sensor or the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor, as taught by Shaw, for the purpose of allowing for variations in system packaging and pedal response curves.

Re clm 11

Masaharu, in view of Shaw, discloses all of the claimed subject matter as described above. Masaharu does not disclose a brake controlling unit capable of controlling the brake force electrically, or an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output value of a load sensor.

Shaw teaches a brake controlling unit (see BBW, C1/L20-25) capable of controlling the brake force electrically, and an electric control unit ("automatic electric means", C1/L20-25) for controlling the brake force of the brake controlling unit electrically based on the output value of a load sensor for the purpose of remotely activating a brake (C1/L24).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Masaharu and provide a brake controlling unit capable of controlling the brake force electrically, or an electric control unit for controlling the brake force of the brake controlling unit electrically based on the output value of a load sensor, as taught by Shaw, for the purpose of remotely activating a brake.

Re clm 12

Masaharu, in view of Shaw, discloses all of the claimed subject matter as described above. Masaharu does not disclose a stroke sensor or the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor.

Shaw teaches a stroke sensor (35) and the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor (15) and the stroke sensor for the purpose of allowing for variations in system packaging and pedal response curves (C5/L5-10).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Masaharu and provide a stroke sensor or the electric control unit controls the brake force of the brake controlling unit based on detected values of both the load sensor and the stroke sensor, as taught by Shaw, for the purpose of allowing for variations in system packaging and pedal response curves.

4. Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaharu (Japanese publication # 2003-312457) in view of Shaw (US 6,367,886) as applied to claims 9 and 12 above, and further in view of Poertzgen (EP 0768224).

Masaharu further discloses:

- The brake operating member (2) disposed on the supporting member (1) fixed on the vehicle body (4,5) such that the brake operating member (2) is pivotable about the specified first axis (3 or 7).

Masaharu, in view of Shaw, fails to disclose:

- Stroke sensor disposed on the supporting member coaxial with the first axis for detecting the amount of pivotal movement of the brake operating member.

Poertzgen teaches a stroke sensor (36) disposed on a supporting member (38) coaxial with the first axis (34) for detecting the amount of pivotal movement of the brake operating member (28) to provide a cost effective and very reliable rotational sensor (C2/L22-23).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the us of a stroke sensor disposed on a supporting member coaxial with the first axis for detecting the amount of pivotal movement of the brake operating member, as taught by Poertzen, to provide a cost effective and very reliable rotational sensor.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terence Boes whose telephone number is (571) 272-4898. The examiner can normally be reached on Monday - Friday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TB
2/7/06

RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER